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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/973,778	10/11/2001	Luc Ouellet	12251-US	7550
23553	7590	07/20/2006	EXAMINER	
MARKS & CLERK			HOFFMANN, JOHN M	
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STATION B			PAPER NUMBER	
OTTAWA, ON K1P 5S7			1731	
CANADA			DATE MAILED: 07/20/2006	

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/973,778

Applicant(s)

OUELLET ET AL.

Examiner

John Hoffmann

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,7,9,11,13-17 and 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,7,9,11,13-17 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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Claims 1, 7, 9, 11, 13-17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tregoe 6584807 in view of Liu 5094984 and Ojha 5979188 and optionally in view of MAEDA 5679165.

See the previous Office Action for how the references are applied. The added limitations were all previously addressed.

Official Notice was previously taken: "Examiner takes Official Notice that it is well known that continuous CVD furnaces have substantially constant/stable temperatures, as the wafers are fed the furnace sequentially, they are heated to the stable temperature in any given zone." Since Applicant has not traversed the taking, such is now taken to be admitted prior art.

From **MPEP 2144.03**

If applicant does not traverse the examiner's assertion of official notice or applicant's traverse is not adequate, the examiner should clearly indicate in the next Office action that the common knowledge or well-known in the art statement is taken to be admitted prior art because applicant either failed to traverse the examiner's assertion of official notice or that the traverse was inadequate. If the traverse was inadequate, the examiner should include an explanation as to why it was inadequate.

Response to Arguments

Applicant's arguments filed 5/19/06 have been fully considered but they are not persuasive.

It is argued that there is no reason to combine Liu with Tregoe because Liu is directed to electrical circuits. It has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular

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problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, at least the first condition is met: the prior art reference is in the field of applicant's endeavor. On page 7 of Applicant's 5/18/06 response, Applicant refers to the "PECVD art" and to US patent 7041547 (which deals with semiconductor processing). Thus, applicant's suggestion of a division between electronics and optics when it comes to prior art is not convincing. If the entirety of PECVD art (wafer) processing is to be considered when determining the scope of the claim, then the same entirety should be applied when considering prior art. Furthermore when Examiner did an EAST text search for opto-electronics and wafer, examiner got over 2000 hits. It seems quite clear that one of ordinary skill would have recognized that Liu's teachings are not limited to electronic devices.

It is further argued that none of the references teaches to obtain high quality waveguide with layers having different refractive indices. Tregoe teaches different materials: at least two of which have indices that are inherently different from each other.

It is also argued that none of the references address the stress-induced mechanical problems. Examiner disagrees: see LINES 62-67 of col. 3 of Ohja '188.

It is also argued that Ohja is not involved with annealing partial structures rather Ohja anneals the entire structure. Applicant does not point out where this is discussed in Ohja and Examiner could not find this. Rather Examiner finds that col. 2, lines 17-35 refers to separate annealing steps for various layers.

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It is further argued that the Office is unfairly mixing the teachings of Ohja.

Applicant does not point out why this is unfair.

From MPEP 2145:

A prior art reference that "teaches away" from the claimed invention is a significant factor to be considered in determining obviousness; however, "the nature of the teaching is highly relevant and must be weighed in substance. A known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use." *In re Gurley*, 27 F.3d 551, 554, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994) (Claims were directed to an epoxy resin based printed circuit material. A prior art reference disclosed a polyester-imide resin based printed circuit material, and taught that although epoxy resin based materials have acceptable stability and some degree of flexibility, they are inferior to polyester-imide resin based materials. The court held the claims would have been obvious over the prior art because the reference taught epoxy resin based material was useful for applicant's purpose, applicant did not distinguish the claimed epoxy from the prior art epoxy, and applicant asserted no discovery beyond what was known to the art.)

Ohja discloses that annealing/consolidation is required (col. 1, lines 23-30). So in essence, Tregoat would inherently have annealing. There is no need for Tregoat to recite all required steps, such as annealing, cooling, packaging, turning the apparatus on, forming a silicon ingot, slicing the silicon ingot to form the wafer, etc.

From MPEP 2144.01 Implicit Disclosure:

"[I]n considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom." *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

See also, *In re Fritch*, 972 F.2d 1260, 1264-65, 23 USPQ2d 1780, 1782-83 (Fed. Cir. 1992); *In re Sovish*, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir. 1985).

It is further argued that the optimizing the anneal times has to be based on the reason for which the anneal is performed in Ohja (i.e. densification optimization) rather than the 30 minutes required for stress reduction. The rejection points to Ohja's motivation/reason : to avoid cracking and that such were considered needed. It is not deemed relevant whether Ohja's superior/quick mode would read on the present claims. Examiner understands how one may consider it "unfair" because one would have been even more motivated to use a quick anneal. Nonetheless, it is clear that Applicant's concept of annealing for periods of longer than 30 minutes is well known, would have been obvious.

As to the argument that since the motivations are different, optimizing Ohja, would not result in the 30 minute time limit – because Applicant uses a different rationale. This is not convincing, Applicant has not demonstrated any criticality regarding the 30 minute time limit.

Likewise for the ramp rates. Whether optimizing Ohja's preferred embodiment would render the invention obvious is moot, because the rejection is based on the non-preferred embodiment. Although Applicant alleges that the 1-25 degrees/min are critical, there is no evidence which shows this. The same applies to the 900 C arguments.

It is still further argued that there is no indication that Ohja has an annealing step after each deposition. Examiner disagrees. First, col. 1, lines 22-27 teaches that the material (silica, doped or undoped) requires consolidation/annealing. This material is

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substantially the same as the core material (see col. 1, lines 9-15). Thus it is clear that each layer needs annealing. Col. 2, lines 17-19 discloses that one can anneal the core layer prior to depositing the cladding layer. Since the cladding layer is required to be annealed, there are clearly separate annealing steps.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

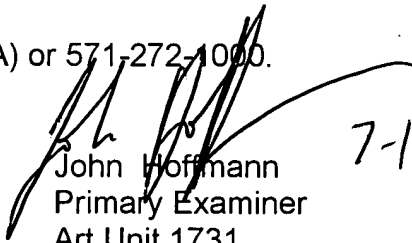
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


John Hoffmann
Primary Examiner
Art Unit 1731

7-17-06

jmh